让校准更轻松！
Calibration can be easy!

# ConST® 116

## Handheld Pneumatic Pump User's Manual

( This manual is fit for the ConST® 117, too.)

## Warnings and cautions

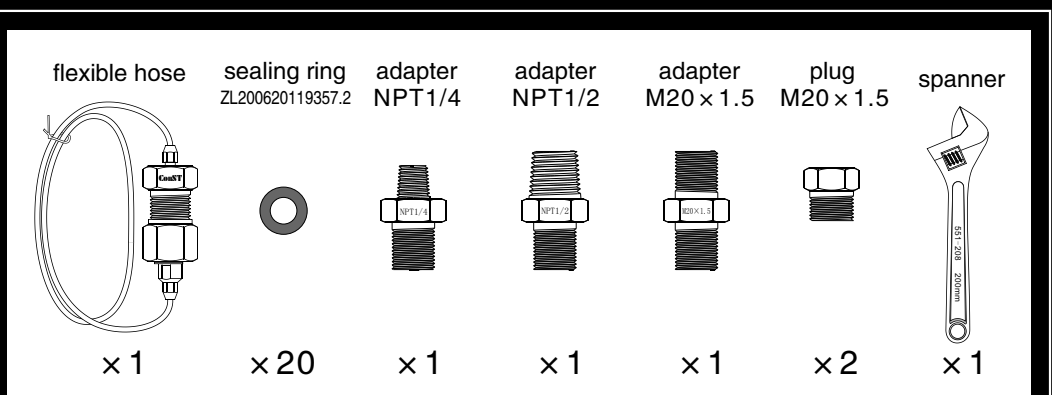
- Avoid possible damage when suddenly apply pressure to low pressure and small chamber gauges.
- Do not exceed the safety pressure limit ( 7MPa ) .
- Compressed air may cause problem in explosive or corruptive environment.
- Do not shift between pressure and vacuum mode under pressure.
- Do not over tighten connectors to avoid any damage.
- Store the pump in the dry and non–corruptive environment.
- Any security problems or damages caused by incorrect operation, is beyond ConST group's responsibility.

## Specification

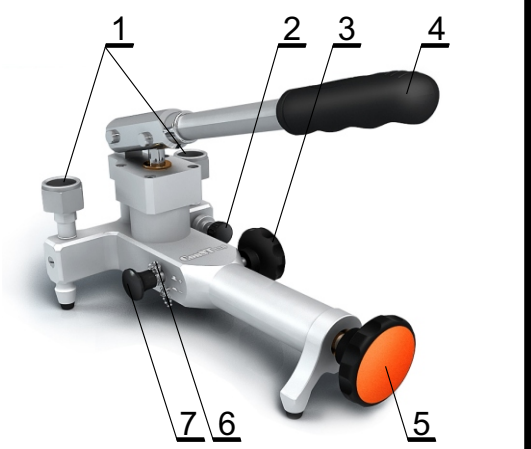
- **Pressure range:** a. Vacuum: ( –95 to 0 ) KPa
  b. Pressure: ( 0 to 2.5 ) MPa
- **Temperature:** ( 0~50 ) ℃
- **Humidity:** < 85%RH
- **Adjusting fineness:** 10Pa
- **Safety pressure:** < 7MPa
- **Pressure media:** Air
- **Size:** 240 × 120 × 130mm ( 315mm × 198mm × 140mm for ConST117 )
- **Weight:** 1.3kg ( 2.6kg for ConST117 )

***Remark:*** *If local atmosphere pressure is 100kPa, the vacuum can reach to -95kPa; If local atmosphere pressure is P, the vacuum can reach to - (95P/100)kPa.*

## Accessories

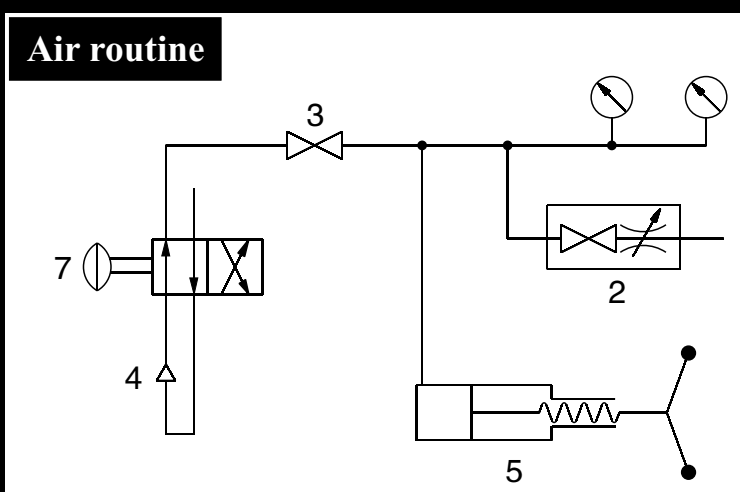



## Configuration & Air routine




**1 – M20 × 1.5 connector**
**2 – Release valve**
( clockwise to close/ anticlockwise to open )
**3 – Isolating valve**
( isolate the calibration from pressurizing system )
**4 – Pressure lever**
**5 – Fine adjust handles**
( clockwise to increase pressure )
**6 – Security bolt pin**
( use it to ensure safety )
**7 – Pressure/vacuum selector**
( Pressure: pull it out; Vacuum: push it in )

### Air routine

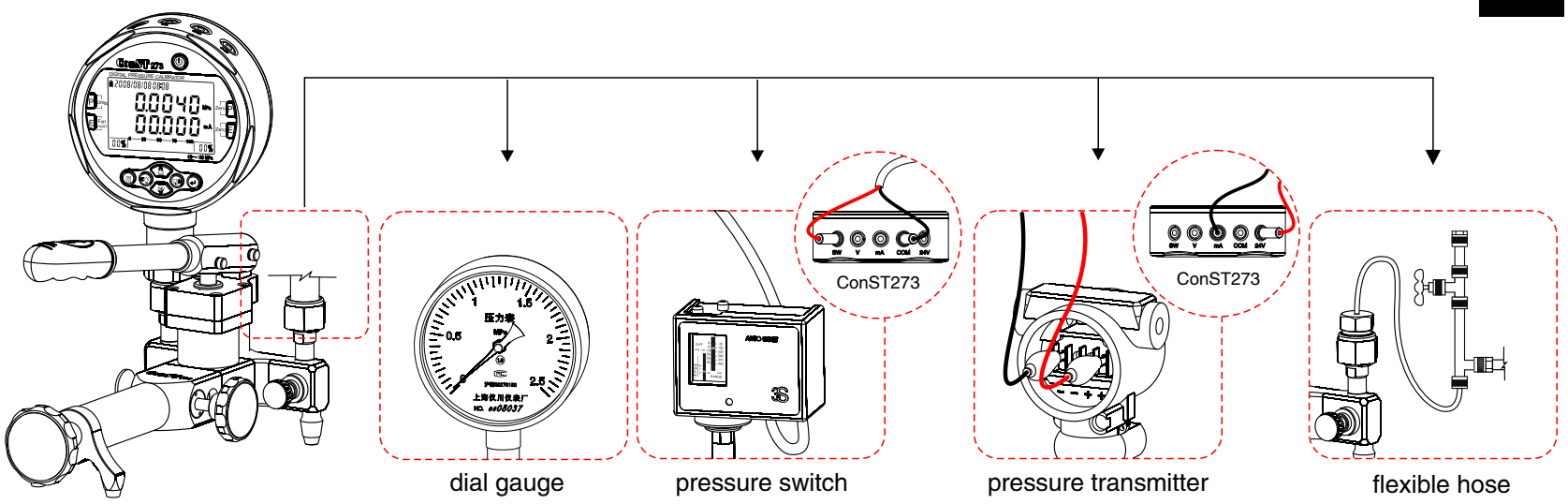



## Troubleshooting

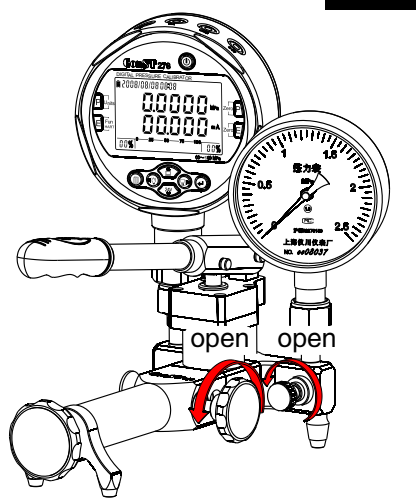
| Problems | Causes | Solutions |
|---|---|---|
| Hard to use pressure lever | The isolating valve is not open. | Open the isolating valve. |
| Hard to pressurize | A. Release valve is not closed. | Close the release valve. |
| | B. The sealing ring is broken or loosen. | Replace sealing ring (PR#:ZL200620119357.2). |
| | C. P/V selector is in wrong position. | Pressure: pull it out; Vacuum: push it in. |
| Hard to use vernier | A. The isolating valve is not closed. | Close the isolating valve. |
| | B. The gauges is not tightened. | Tighten the reference gauge or the gauge under test. |
| | C. The sealing ring is aged or frayed. | Replace sealing ring. |
| | D. The thread surface is not smooth. | Put in a Teflon seals and turn it tightly. |
| | E. The connector type is unmatched. | Use the right and suitable adapter. |
| | F. The impurity blocks the air routine. | Repeat pressurizing several times and then release it suddenly, make airflow to bring the impurity out. |
| Not easy to turn the fittings | A. Too tightly turned last time! | Do not apply much force to close the fittings and valves. |
| | B. The new pump is not smooth. | The new pump needs time to abrade. |
| | C. The threads have no lubrication. | Lubricate the thread. |

# Basic Operation

## Connection A

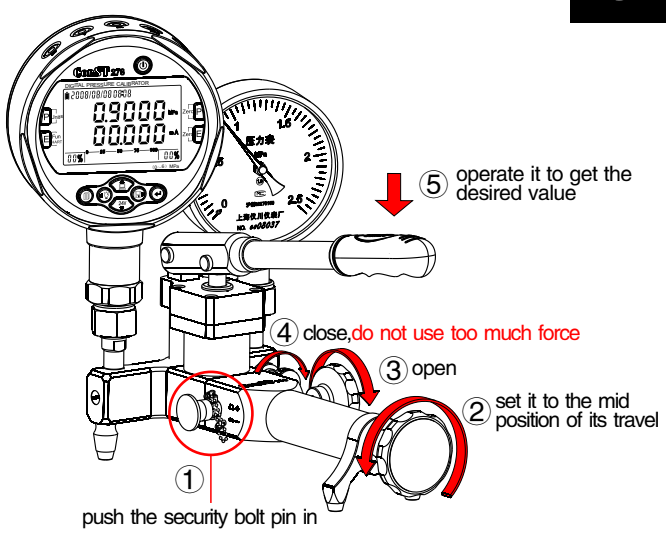



## Open to atmosphere B

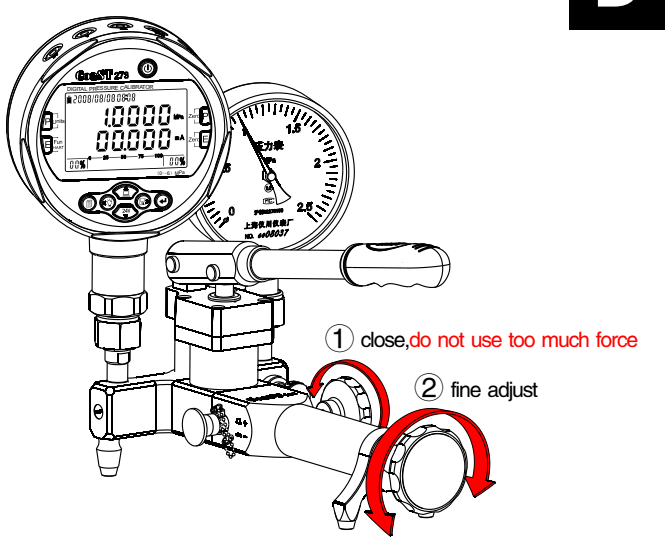



Zeroing should be operated under this condition only.

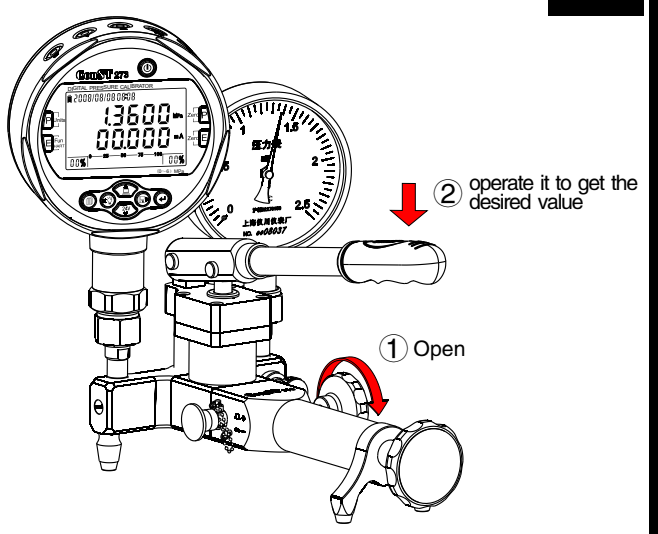
## Pre-pressure C


⑤ operate it to get the desired value
④ close,do not use too much force
③ open
② set it to the mid position of its travel
①
push the security bolt pin in

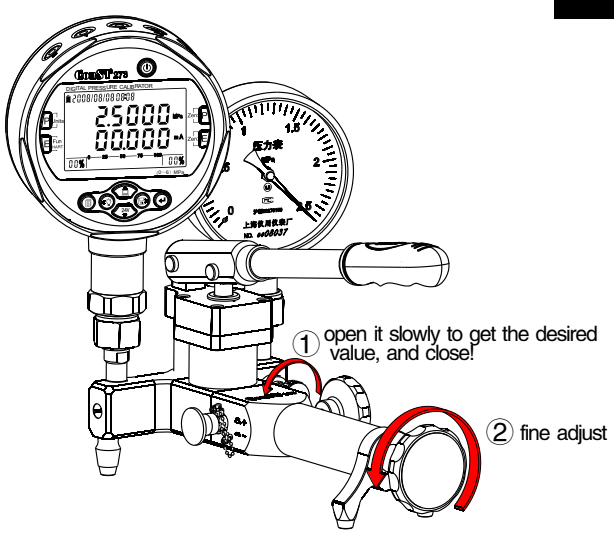
## Fine adjust process D



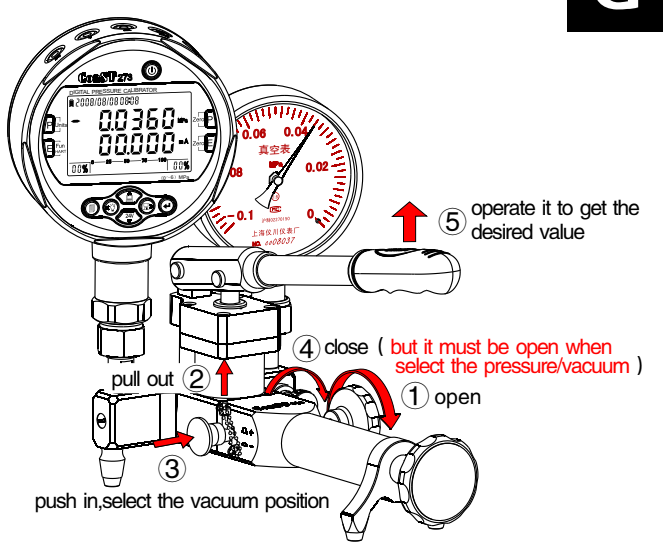

## Pressurizing process E



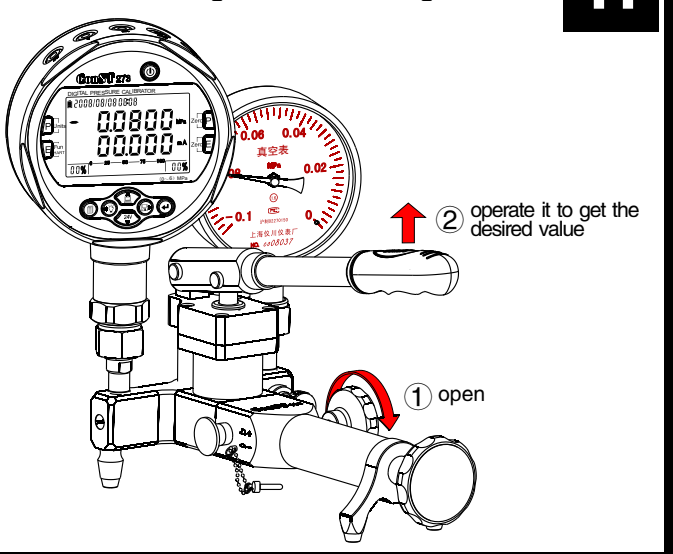

## Decrease pressure process F



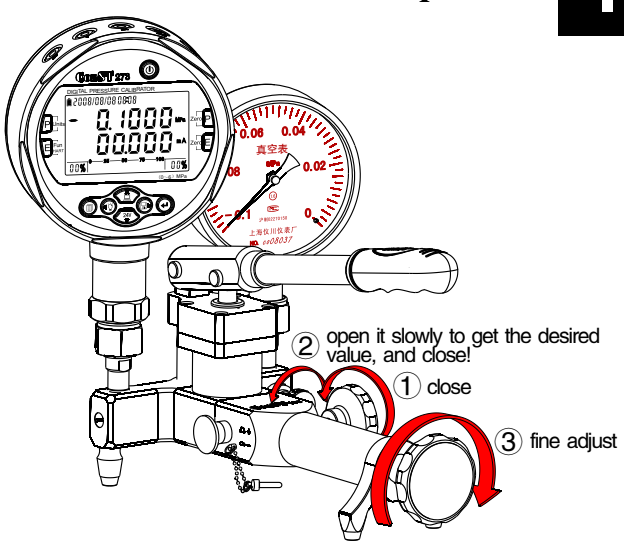

## Vacuum process G


⑤ operate it to get the desired value
④ close ( but it must be open when select the pressure/vacuum )
pull out ②
① open
③
push in,select the vacuum position

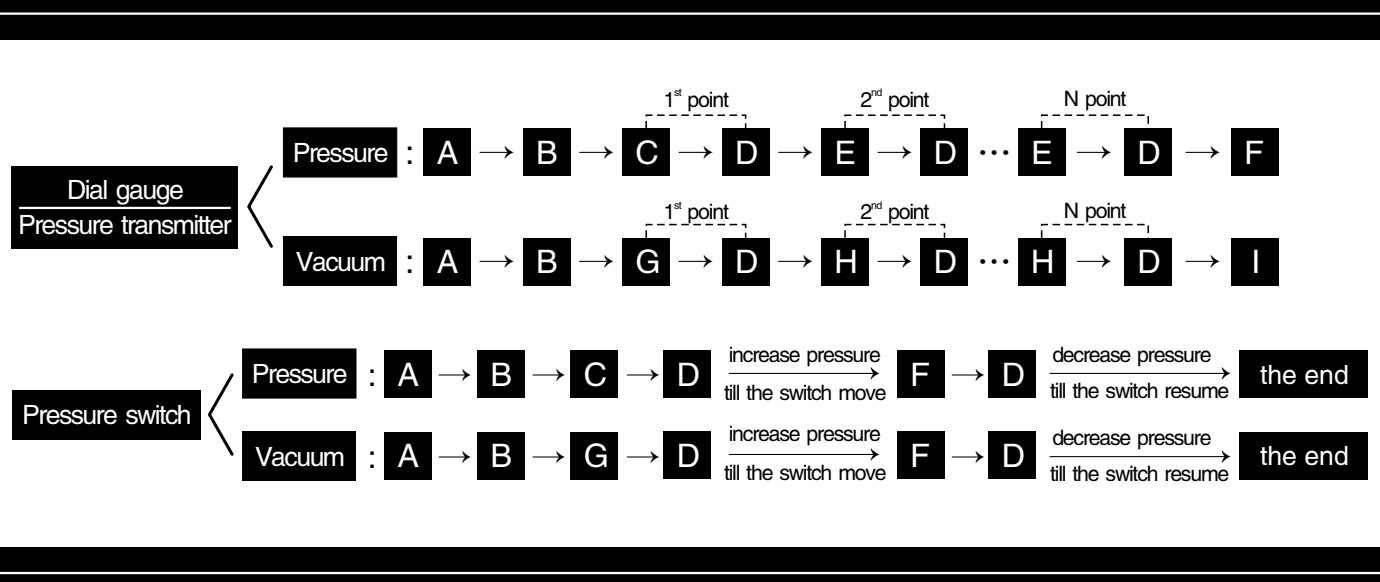
## Repeat Vacuum process H




## Decrease vacuum process I




## Calibration procedure


Dial gauge
Pressure transmitter
Pressure : A → B → C → D → E → D ··· E → D → F
Vacuum : A → B → G → D → H → D ··· H → D → I
1st point
2nd point
N point
Pressure switch
Pressure : A → B → C → D → increase pressure till the switch move → F → D → decrease pressure till the switch resume → the end
Vacuum : A → B → G → D → increase pressure till the switch move → F → D → decrease pressure till the switch resume → the end

***Remark:*** ConST group has made a concerted effort to provide complete and current information for the proper use of the equipment. The product specifications and other information contained this manual are subject to change without notice.